



F W P R A G E D

O I P E

RAW SEQUENCE LISTING
PATENT APPLICATION: US/10/080,299

DATE: 03/08/2002
TIME: 15:21:47

Input Set : A:\ICC127.ST25.txt
Output Set: N:\CRF3\03082002\J080299.raw

3 <110> APPLICANT: Birkett, Ashley J.
5 <120> TITLE OF INVENTION: INFLUENZA IMMUNOGEN AND VACCINE
7 <130> FILE REFERENCE: ICC 127.0 4564/84273
C--> 9 <140> CURRENT APPLICATION NUMBER: US/10/080,299
10 <141> CURRENT FILING DATE: 2002-02-21
12 <150> PRIOR APPLICATION NUMBER: 09/930,915
13 <151> PRIOR FILING DATE: 2001-08-15
15 <160> NUMBER OF SEQ ID NOS: 83
17 <170> SOFTWARE: PatentIn version 3.1
19 <210> SEQ ID NO: 1
20 <211> LENGTH: 183
21 <212> TYPE: PRT
22 <213> ORGANISM: Hepatitis B virus
24 <400> SEQUENCE: 1
26 Met Asp Ile Asp Pro Tyr Lys Glu Phe Gly Ala Thr Val Glu Leu Leu
27 1 5 10 15
30 Ser Phe Leu Pro Ser Asp Phe Phe Pro Ser Val Arg Asp Leu Leu Asp
31 20 25 30
34 Thr Ala Ser Ala Leu Tyr Arg Glu Ala Leu Glu Ser Pro Glu His Cys
35 35 40 45
38 Ser Pro His His Thr Ala Leu Arg Gln Ala Ile Leu Cys Trp Gly Glu
39 50 55 60
42 Leu Met Thr Leu Ala Thr Trp Val Gly Val Asn Leu Glu Asp Pro Ala
43 65 70 75 80
46 Ser Arg Asp Leu Val Val Ser Tyr Val Asn Thr Asn Met Gly Leu Lys
47 85 90 95
50 Phe Arg Gln Leu Leu Trp Phe His Ile Ser Cys Leu Thr Phe Gly Arg
51 100 105 110
54 Glu Thr Val Ile Glu Tyr Leu Val Ser Phe Gly Val Trp Ile Arg Thr
55 115 120 125
58 Pro Pro Ala Tyr Arg Pro Pro Asn Ala Pro Ile Leu Ser Thr Leu Pro
59 130 135 140
62 Glu Thr Thr Val Val Arg Arg Arg Gly Arg Ser Pro Arg Arg Arg Thr
63 145 150 155 160
66 Pro Ser Pro Arg Arg Arg Ser Gln Ser Pro Arg Arg Arg Ser
67 165 170 175
70 Gln Ser Arg Glu Ser Gln Cys
71 180
74 <210> SEQ ID NO: 2
75 <211> LENGTH: 185
76 <212> TYPE: PRT
77 <213> ORGANISM: Hepatitis B virus
79 <400> SEQUENCE: 2

RAW SEQUENCE LISTING
PATENT APPLICATION: US/10/080,299

DATE: 03/08/2002
TIME: 15:21:47

Input Set : A:\ICC127.ST25.txt
Output Set: N:\CRF3\03082002\J080299.raw

81 Met Asp Ile Asp Pro Tyr Lys Glu Phe Gly Ala Thr Val Glu Leu Leu
82 1 5 10 15
85 Ser Phe Leu Pro Ser Asp Phe Phe Pro Ser Val Arg Asp Leu Leu Asp
86 20 25 30
89 Thr Ala Ser Ala Leu Tyr Arg Glu Ala Leu Glu Ser Pro Glu His Cys
90 35 40 45
93 Ser Pro His His Thr Ala Leu Arg Gln Ala Ile Leu Cys Trp Gly Glu
94 50 55 60
97 Leu Met Thr Leu Ala Thr Trp Val Gly Asn Asn Leu Gln Asp Pro Ala
98 65 70 75 80
101 Ser Arg Asp Leu Val Val Asn Tyr Val Asn Thr Asn Met Gly Leu Lys
102 85 90 95
105 Ile Arg Gln Leu Leu Trp Phe His Ile Ser Cys Leu Thr Phe Gly Arg
106 100 105 110
109 Glu Thr Val Leu Glu Tyr Leu Val Ser Phe Gly Val Trp Ile Arg Thr
110 115 120 125
113 Pro Pro Ala Tyr Arg Pro Pro Asn Ala Pro Ile Leu Ser Thr Leu Pro
114 130 135 140
117 Glu Thr Thr Val Val Arg Arg Arg Asp Arg Gly Arg Ser Pro Arg Arg
118 145 150 155 160
121 Arg Thr Pro Ser Pro Arg Arg Arg Ser Gln Ser Pro Arg Arg Arg
122 165 170 175
125 Arg Ser Gln Ser Arg Glu Ser Gln Cys
126 180 185
129 <210> SEQ ID NO: 3
130 <211> LENGTH: 185
131 <212> TYPE: PRT
132 <213> ORGANISM: Hepatitis B virus
134 <400> SEQUENCE: 3
136 Met Asp Ile Asp Pro Tyr Lys Glu Phe Gly Ala Thr Val Glu Leu Leu
137 1 5 10 15
140 Ser Phe Leu Pro Ser Asp Phe Phe Pro Ser Val Arg Asp Leu Leu Asp
141 20 25 30
144 Thr Ala Ser Ala Leu Tyr Arg Glu Ala Leu Glu Ser Pro Glu His Cys
145 35 40 45
148 Ser Pro His His Thr Ala Leu Arg Gln Ala Ile Leu Cys Trp Gly Glu
149 50 55 60
152 Leu Met Thr Leu Ala Thr Trp Val Gly Asn Asn Leu Glu Asp Pro Ala
153 65 70 75 80
156 Ser Arg Asp Leu Val Val Asn Tyr Val Asn Thr Asn Val Gly Leu Lys
157 85 90 95
160 Ile Arg Gln Leu Leu Trp Phe His Ile Ser Cys Leu Thr Phe Gly Arg
161 100 105 110
164 Glu Thr Val Leu Glu Tyr Leu Val Ser Phe Gly Val Trp Ile Arg Thr
165 115 120 125
168 Pro Pro Ala Tyr Arg Pro Pro Asn Ala Pro Ile Leu Ser Thr Leu Pro
169 130 135 140
172 Glu Thr Thr Val Val Arg Arg Arg Asp Arg Gly Arg Ser Pro Arg Arg
173 145 150 155 160

RAW SEQUENCE LISTING
PATENT APPLICATION: US/10/080,299

DATE: 03/08/2002
TIME: 15:21:47

Input Set : A:\ICC127.ST25.txt
Output Set: N:\CRF3\03082002\J080299.raw

176 Arg Thr Pro Ser Pro Arg Arg Arg Pro Ser Gln Ser Pro Arg Arg Arg
177 165 170 175
180 Arg Ser Gln Ser Arg Glu Ser Gln Cys
181 180 185
184 <210> SEQ ID NO: 4
185 <211> LENGTH: 183
186 <212> TYPE: PRT
187 <213> ORGANISM: Hepatitis B virus
189 <400> SEQUENCE: 4
191 Met Asp Ile Asp Pro Tyr Lys Glu Phe Gly Ala Thr Val Glu Leu Leu
192 1 5 10 15
195 Ser Phe Leu Pro Ser Asp Phe Phe Pro Ser Val Arg Asp Leu Leu Asp
196 20 25 30
199 Thr Ala Ala Ala Leu Tyr Arg Asp Ala Leu Glu Ser Pro Glu His Cys
200 35 40 45
203 Ser Pro His His Thr Ala Leu Arg Gln Ala Ile Leu Cys Trp Gly Asp
204 50 55 60
207 Leu Met Thr Leu Ala Thr Trp Val Gly Thr Asn Leu Glu Asp Pro Ala
208 65 70 75 80
211 Ser Arg Asp Leu Val Val Ser Tyr Val Asn Thr Asn Val Gly Leu Lys
212 85 90 95
215 Phe Arg Gln Leu Leu Trp Phe His Ile Ser Cys Leu Thr Phe Gly Arg
216 100 105 110
219 Glu Thr Val Leu Glu Tyr Leu Val Ser Phe Gly Val Trp Ile Arg Thr
220 115 120 125
223 Pro Pro Ala Tyr Arg Pro Pro Asn Ala Pro Ile Leu Ser Thr Leu Pro
224 130 135 140
227 Glu Thr Thr Val Val Arg Arg Arg Gly Arg Ser Pro Arg Arg Arg Thr
228 145 150 155 160
231 Pro Ser Pro Arg Arg Arg Arg Ser Gln Ser Pro Arg Arg Arg Arg Ser
232 165 170 175
235 Gln Ser Arg Glu Ser Gln Cys
236 180
239 <210> SEQ ID NO: 5
240 <211> LENGTH: 183
241 <212> TYPE: PRT
242 <213> ORGANISM: Marmota monax
244 <400> SEQUENCE: 5
246 Met Asp Ile Asp Pro Tyr Lys Glu Phe Gly Ser Ser Tyr Gln Leu Leu
247 1 5 10 15
250 Asn Phe Leu Pro Leu Asp Phe Phe Pro Asp Leu Asn Ala Leu Val Asp
251 20 25 30
254 Thr Ala Thr Ala Leu Tyr Glu Glu Glu Leu Thr Gly Arg Glu His Cys
255 35 40 45
258 Ser Pro His His Thr Ala Ile Arg Gln Ala Leu Val Cys Trp Asp Glu
259 50 55 60
262 Leu Thr Lys Leu Ile Ala Trp Met Ser Ser Asn Ile Thr Ser Glu Gln
263 65 70 75 80
266 Val Arg Thr Ile Ile Val Asn His Val Asn Asp Thr Trp Gly Leu Lys

RAW SEQUENCE LISTING
PATENT APPLICATION: US/10/080,299

DATE: 03/08/2002
TIME: 15:21:47

Input Set : A:\ICC127.ST25.txt
Output Set: N:\CRF3\03082002\J080299.raw

267 85 90 95
 270 Val Arg Gln Ser Leu Trp Phe His Leu Ser Cys Leu Thr Phe Gly Gln
 271 100 105 110
 274 His Thr Val Gln Glu Phe Leu Val Ser Phe Gly Val Trp Ile Arg Thr
 275 115 120 125
 278 Pro Ala Pro Tyr Arg Pro Pro Asn Ala Pro Ile Leu Ser Thr Leu Pro
 279 130 135 140
 282 Glu His Thr Val Ile Arg Arg Arg Gly Gly Ala Arg Ala Ser Arg Ser
 283 145 150 155 160
 286 Pro Arg Arg Arg Thr Pro Ser Pro Arg Arg Arg Arg Ser Gln Ser Pro
 287 165 170 175
 290 Arg Arg Arg Arg Ser Gln Cys
 291 180
 294 <210> SEQ ID NO: 6
 295 <211> LENGTH: 217
 296 <212> TYPE: PRT
 297 <213> ORGANISM: Spermophilus variegatus
 299 <400> SEQUENCE: 6
 301 Met Tyr Leu Phe His Leu Cys Leu Val Phe Ala Cys Val Pro Cys Pro
 302 1 5 10 15
 305 Thr Val Gln Ala Ser Lys Leu Cys Leu Gly Trp Leu Trp Asp Met Asp
 306 20 25 30
 309 Ile Asp Pro Tyr Lys Glu Phe Gly Ser Ser Tyr Gln Leu Leu Asn Phe
 310 35 40 45
 313 Leu Pro Leu Asp Phe Phe Pro Asp Leu Asn Ala Leu Val Asp Thr Ala
 314 50 55 60
 317 Ala Ala Leu Tyr Glu Glu Leu Thr Gly Arg Glu His Cys Ser Pro
 318 65 70 75 80
 321 His His Thr Ala Ile Arg Gln Ala Leu Val Cys Trp Glu Glu Leu Thr
 322 85 90 95
 325 Arg Leu Ile Thr Trp Met Ser Glu Asn Thr Thr Glu Glu Val Arg Arg
 326 100 105 110
 329 Ile Ile Val Asp His Val Asn Asn Thr Trp Gly Leu Lys Val Arg Gln
 330 115 120 125
 333 Thr Leu Trp Phe His Leu Ser Cys Leu Thr Phe Gly Gly His Thr Val
 334 130 135 140
 337 Gln Glu Phe Leu Val Ser Phe Gly Val Trp Ile Arg Thr Pro Ala Pro
 338 145 150 155 160
 341 Tyr Arg Pro Pro Asn Ala Pro Ile Leu Ser Thr Leu Pro Glu His Thr
 342 165 170 175
 345 Val Ile Arg Arg Arg Gly Gly Ser Arg Ala Ala Arg Ser Pro Arg Arg
 346 180 185 190
 349 Arg Thr Pro Ser Pro Arg Arg Arg Ser Gln Ser Pro Arg Arg Arg
 350 195 200 205
 353 Arg Ser Gln Ser Pro Ala Ser Asn Cys
 354 210 215
 357 <210> SEQ ID NO: 7
 358 <211> LENGTH: 51
 359 <212> TYPE: DNA

RAW SEQUENCE LISTING
PATENT APPLICATION: US/10/080,299

DATE: 03/08/2002
TIME: 15:21:47

Input Set : A:\ICC127.ST25.txt
Output Set: N:\CRF3\03082002\J080299.raw

360 <213> ORGANISM: Artificial Sequence
362 <220> FEATURE:
363 <223> OTHER INFORMATION: plasmid pkk223
365 <400> SEQUENCE: 7
366 ttcacacagg aaacagaatt cccggggatc cgtcgacctg cagccaagct t 51
369 <210> SEQ ID NO: 8
370 <211> LENGTH: 38
371 <212> TYPE: DNA
372 <213> ORGANISM: Artificial Sequence
374 <220> FEATURE:
375 <223> OTHER INFORMATION: plasmid pkk223
377 <400> SEQUENCE: 8
378 ttcacataag gagaaaaaaa ccatggatc cgaagctt 38
381 <210> SEQ ID NO: 9
382 <211> LENGTH: 24
383 <212> TYPE: PRT
384 <213> ORGANISM: Hepatitis B virus
386 <220> FEATURE:
387 <221> NAME/KEY: MISC_FEATURE
388 <222> LOCATION: (1)..(1)
389 <223> OTHER INFORMATION: Xaa at position 1 is methionine or absent. If methionine then Xaa
then Xaa
390 a in positions 2 through 8 are not absent
393 <220> FEATURE:
394 <221> NAME/KEY: MISC_FEATURE
395 <222> LOCATION: (2)..(2)
396 <223> OTHER INFORMATION: Xaa at position 2 is serine or absent. If serine then Xaa in
pos
397 itions 3 through 8 are not absent.
400 <220> FEATURE:
401 <221> NAME/KEY: MISC_FEATURE
402 <222> LOCATION: (3)..(3)
403 <223> OTHER INFORMATION: Xaa at position 3 is leucine or absent. If leucine then Xaa
in p
404 ositions 4 through 8 are not absent.
407 <220> FEATURE:
408 <221> NAME/KEY: MISC_FEATURE
409 <222> LOCATION: (4)..(4)
410 <223> OTHER INFORMATION: Xaa at position 4 is leucine or absent. If leucine then Xaa
in p
411 ositions 5 through 8 are not absent.
414 <220> FEATURE:
415 <221> NAME/KEY: MISC_FEATURE
416 <222> LOCATION: (5)..(5)
417 <223> OTHER INFORMATION: Xaa at position 5 is threonine or absent. If threonine then Xaa
Xaa
418 in positions 6 through 8 are not absent.
421 <220> FEATURE:
422 <221> NAME/KEY: MISC_FEATURE
423 <222> LOCATION: (6)..(6)
424 <223> OTHER INFORMATION: Xaa at position 6 is glutamic acid or absent. If glutamic
acid t
425 hen Xaa in positions 7 through 8 are not absent.

428 <220> FEATURE:
429 <221> NAME/KEY: MISC_FEATURE

Use of n and . or Xaa has been detected in the Sequence Listing. Review the Sequence Listing to ensure a corresponding explanation is present in the <220> to <223> fields of each sequence using n or Xaa

VERIFICATION SUMMARY
PATENT APPLICATION: US/10/080,299

DATE: 03/08/2002
TIME: 15:21:48

Input Set : A:\ICC127.ST25.txt
Output Set: N:\CRF3\03082002\J080299.raw

L:9 M:270 C: Current Application Number differs, Replaced Current Application Number
L:514 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9
L:518 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9